



**Michael Baker Jr., Inc.**  
*A Unit of Michael Baker Corporation*

November 19, 2009

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Attn: Mr. Adolph Everett, P.E.  
Chief, RCRA Programs Branch

Re: Contract N62470-07-D-0502  
IQC for A/E Services for Multi-Media  
Environmental Compliance Engineering Support  
Delivery Order (DO) 0002  
U.S. Naval Activity Puerto Rico (NAPR)  
EPA I.D. No. PR2170027203  
Final Phase I RCRA Facility Investigation Report for SWMU 70

Dear Mr. Everett:

Michael Baker Jr., Inc. (Baker), on behalf of the Navy, is pleased to provide you with one hard copy of the replacement pages for the Draft Phase I RCRA Facility Investigation Report for SWMU 70, Naval Activity Puerto Rico, for your review and approval. These replacement pages make up the Final Phase I RCRA Facility Investigation Report for SWMU 70. Directions for inserting the replacement pages into the Draft Phase I RCRA Facility Investigation Report for SWMU 70 are provided for your use. Also included with the copy of the replacement pages is one electronic copy provided on CD of the Final Phase I RCRA Facility Investigation Report for SWMU 70, Naval Activity Puerto Rico.

This document is being submitted in accordance with EPA comments dated August 6, 2009. The Navy responses to these comments are attached for your review.

If you have questions regarding this submittal, please contact Mr. Mark Davidson at (843) 743-2124. Additional distribution has been made as indicated below.

Sincerely,

**MICHAEL BAKER JR., INC.**

A handwritten signature in black ink that reads "Mark E. Kimes".

Mark E. Kimes, P.E.  
Activity Coordinator

MEK/lp  
Attachments

cc: Ms. Debra Evans-Ripley, BRAC PMO SE (letter only)  
Mr. David Criswell, BRAC PMO SE (letter only)  
Mr. Mark E. Davidson, BRAC PMO SE (1 hard copy and 1 CD)  
Mr. Pedro Ruiz, NAPR (1 CD)  
Ms. Bonnie P. Capito, NAVFAC Atlantic – Code EV32 (1 hard copy for Admin Record)  
Mr. Tim Gordon, US EPA Region II (1 hard copy and 1 CD)  
Mr. Carl Soderberg, US EPA Caribbean Office (1 hard copy and 1 CD)  
Mr. Felix Lopez, US F&WS (1CD)  
Mr. Anthony Scacifero, TechLaw, Inc. (1 CD)  
Ms. Willmarie Rivera, PREQB (1CD)  
Ms. Gloria Toro, PREQB (1 hard copy and 1 CD)

**NAVY RESPONSES TO EPA COMMENT LETTER DATED AUGUST 6, 2009 AND  
EPA AND PREQB COMMENTS ON THE  
DRAFT PHASE I RCRA FACILITY INVESTIGATION REPORT  
SWMU 70 (DISPOSAL AREA NORTHWEST OF LANDFILL) DATED MAY 26, 2009**

**EPA COMMENTS**

*(EPA comments are provided in italics, while the Navy responses are provided in regular print.)*

**EPA GENERAL COMMENT**

- 1. The Draft Phase I RFI Report recommends a full RCRA Facility Investigation (RFI) focused around Phase I RFI sample locations in the northern portion of the SWMU (70SB01, 70SB02, 70SB04, and 70SB05) and around sample location 70SB07 in the southern portion of the SWMU. Based on a review of the data provided, it is unclear why sample locations 70SB01, 70SB02, 70SB04, 70SB05, and 70SB07 were selected and why other sample locations were not included. While sample location 70SB07 is recommended as a focus area to the south, the origin of elevated contaminant levels in open water sediments remains unclear. As a result, it is strongly recommended that all detected concentrations in estuarine sediments and groundwater be considered in conjunction with open water sediment concentrations to determine if SWMU 70 is a potential source. Background concentrations should not be considered in this analysis. Based on the results, the scope of further investigations in this area should be redefined, including consideration of the need for additional sampling locations. Revise the Draft Phase I RFI Report to address this issue.*

**Navy Response to EPA General Comment No. 1:** The purpose of the Phase I RFI is to identify whether or not a release has occurred at a SWMU from past site activities. Some of the tools used to assist in making this determination are human health and ecological screening criteria and the approved background screening values. For the purpose of identifying a site-related contaminant in the case of inorganics, a site-related contaminant is defined as an inorganic analyte that exceeds both human health or ecological screening criterion and the corresponding NAPR base-wide background value. These NAPR base-wide inorganic background values were developed in the approved *Revised Final II Summary Report for Environmental Background Concentrations of Inorganic Compounds, Naval Activity Puerto Rico, Ceiba, Puerto Rico*, dated February 29, 2008. Additionally, it is important to recognize the conservativeness of using Regional Screening Levels for residential and industrial soil to screen the sediment data. These screening criteria are used in the absence of sediment-specific screening criteria in order that the data may be evaluated from the human health perspective.

Elevated concentrations, with respect to the screening criteria and background, of arsenic were noted in the surface soil and groundwater in the vicinity of sample locations 70SB01, 70SB02, 70SB04 and 70SB05 indicating a potential release. Consequently, these areas were selected as areas for further investigation in the Full RFI. Similarly, elevated concentrations of chromium, nickel and vanadium, as defined by exceedances of screening criteria and background, were noted in the estuarine sediment at sample location 70SB07 indicating a potential release. Consequently, this area was also recommended for further investigation in the Full RFI.

The origin of elevated contaminant levels in open water sediment is not believed to be the result of a release from past activities at SWMU 70. Although acetone was detected in all of the sediment samples (both estuarine and open water), the concentrations in all samples were relatively low and are considered to be laboratory artifacts rather than site related contamination. Cobalt was detected in two of the three open water

sediment samples at concentrations in excess of both the Regional Screening Level for Residential Soil and the background screening criteria. However, cobalt was not identified as a site-related contaminant at SWMU 70 in any upgradient media (surface soil, subsurface soil, groundwater, or estuarine sediment) since it was not detected at concentrations above approved background levels. Therefore, the cobalt concentrations in open water sediment are not considered related to past activities or the result of a past release at SWMU 70. Since the open water sediment concentrations are not site-related, no further sampling is recommended for open water sediment. No changes to the recommendations in the Draft Phase I RFI are required.

#### **EPA SPECIFIC COMMENT**

1. *Section 7.1, Conclusions, Page 7-1: Section 7.1 indicates cobalt concentrations in upgradient media are less than background concentrations and therefore, are not contributing to cobalt concentrations detected in open water sediments. However, the relationship between open water sediment concentrations and upgradient media concentrations has not been adequately addressed in the Draft Phase I RFI Report as upgradient concentrations below background levels have been eliminated from considerations. The relationship should be analyzed without consideration of background concentrations to determine if upgradient contaminants could be migrating to open water sediments. This information is relevant for establishing the nature and extent of contamination at SWMU 70. Once the potential for migration is determined, background concentrations should be considered in determining if detected concentration levels pose a risk or hazard to human health and the environment. Revise Section 7.1 to discuss the relationship between detected cobalt concentrations in open water sediments and upgradient media without consideration of background concentrations.*

**Navy Response to EPA Specific Comment No. 1:** Refer to the Navy Response to EPA General Comment No. 1. As noted in the comment, concentrations below background levels were eliminated from further consideration as site-related contaminants in the Draft Phase I RFI. Cobalt was not identified as a site-related contaminant at SWMU 70 in any upgradient media (surface soil, subsurface soil, groundwater, or estuarine sediment) since it was not detected at concentrations above background levels. It is acknowledged that cobalt may be migrating from upgradient media to open water sediment. However, the cobalt concentrations in open water sediment are not considered related to past activities or the result of a past release at SWMU 70 because cobalt was not identified as site-related in any other medium. Therefore, under the RCRA Corrective Action Process, no further investigation is warranted for cobalt in the open water sediment because its presence is not from a past release. Section 7.1 will be revised to reflect this rationale.

Additionally, it is important to recognize the conservativeness of using Regional Screening Levels for residential and industrial soil to screen the sediment data. These screening criteria are used in the absence of sediment-specific screening criteria in order that the data may be evaluated from the human health perspective. It should also be noted that there were no cobalt exceedances of the industrial soil and ecological screening criteria.

#### **PREQB COMMENTS**

*(PREQB comments are provided in italics, while the Navy responses are provided in regular print.)*

1. *The following bullets are some minor corrections that should be appointed:*
  - *At page 2-3, the first paragraph stated that the subsurface soil that was obtained from 16E-01 and 16E-02 were collected to a depth of 15 feet bgs and 5 feet bgs, respectively. Then, the next sentence indicated that groundwater at both locations was encountered at 5 feet bgs. Please clarify if there is a typographical error.*

- *Deviations from the approved work plan were clearly enumerated and justified at the report.*
- *The first bullet on page 6-6 appears to have a typographical error, please check if there should be a “to” after the NOEL acronym.*

**Navy Response to PREQB Comment No. 1:**

- The information presented in the first paragraph on page 2-3 is correct. Based on a review of the boring logs, boring 16E-01 was drilled to a depth of 15 feet bgs, while boring 16E-02 was drilled to a depth of 5 feet bgs. Groundwater was encountered at 5 feet bgs at both locations.
- Comment noted.
- As noted in the comment, the word “to” will be added after the NOEL acronym in the first bullet on page 6-6.